DOCKET NO. IB-1330D

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	:	Shimon Weiss et al.
Appl. No.	:	09/865,130
Filed:	:	May 24, 2001
Title	:	ORGANO LUMINESCENT SEMICONDUCTOR NANOCRYSTAL PROBES FOR BIOLOGICAL APPLICATIONS AND PROCESS FOR MAKING AND USING SUCH PROBES
Grp./ A.U.	:	1641
Examiner	:	Unknown
Docket No.	:	IB-1330D

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231

on July 3, 2001
(Date of Deposit)

John P. Taylor, Reg. No. 22,369

John P. Taylor
Signature

July 3, 2001
Date of Signature

AMENDMENT

Honorable Commissioner for Patents
Washington, D.C. 20231

Date: July 3, 2001

Sir:

In response to the "Notice to File Corrected Application Papers" mailed June 18, 2001, please amend the application as follows:

In the Abstract:

Please replace the Abstract beginning at page 30, line 1, with the following rewritten paragraph:

--A semiconductor nanocrystal compound is described capable of linking to an affinity molecule. The compound comprises (1) a semiconductor nanocrystal capable of emitting electromagnetic radiation and/or absorbing energy, and/or scattering or diffracting electromagnetic radiation - when excited by an electromagnetic radiation source or a particle beam; and (2) at least one linking agent, having a first portion linked to the semiconductor nanocrystal and a second portion capable of linking to an affinity molecule. The compound is linked to an affinity molecule to form a semiconductor nanocrystal probe capable of bonding with a detectable substance. Subsequent exposure to excitation energy will excite the semiconductor nanocrystal in the probe, causing the emission of electromagnetic radiation. Further described are processes for respectively: making the semiconductor nanocrystal compound; making the semiconductor nanocrystal probe; and using the probe to determine the presence of a detectable substance in a material.--

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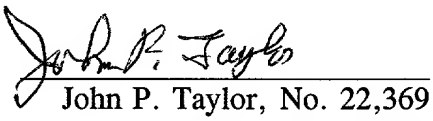
REMARKS

The "Notice to File Corrected Application Papers" indicates that the sole objection of the USPTO to this application is that the originally submitted Abstract (from parent application Serial No. 09/349,833, which was filed on July 8, 1999) exceeds the currently mandated length of 150 words. A substitute Abstract, which meets these requirements, is hereby submitted.

If the Examiner in charge of this case feels that there are any remaining unresolved issues in this case, the Examiner is urged to call the undersigned attorney at the below listed telephone number which is in the Pacific Coast Time Zone.

Respectfully Submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Specification:

The Abstract, beginning at line 1 of page 30, has been amended as follows:

A ~~luminescent~~ semiconductor nanocrystal compound is described ~~which is~~ capable of linking to an affinity molecule. The compound comprises (1) a semiconductor nanocrystal capable of emitting electromagnetic radiation ~~(luminescing) in a narrow wavelength band~~ and/or absorbing energy, and/or scattering or diffracting electromagnetic radiation - when excited by an electromagnetic radiation source ~~(of narrow or broad bandwidth)~~ or a particle beam; and (2) at least one linking agent, having a first portion linked to the semiconductor nanocrystal and a second portion capable of linking to an affinity molecule. The ~~luminescent semiconductor nanocrystal~~ compound is linked to an affinity molecule to form ~~an organo luminescent~~ a semiconductor nanocrystal probe capable of bonding with a detectable substance. ~~in a material being analyzed, and capable of emitting electromagnetic radiation in a narrow wavelength band and/or absorbing, scattering, or diffracting energy when excited by an electromagnetic radiation source (of narrow or broad bandwidth) or a particle beam. The probe is stable to repeated exposure to light in the presence of oxygen and/or other radicals.~~

~~Treatment of a material with the organo luminescent semiconductor nanocrystal probe, and~~ Ssubsequent exposure ~~of this treated material~~ to excitation energy~~, to determine the presence of the detectable substance within the material bonded to the probe,~~ will excite the semiconductor nanocrystal in the probe, ~~bonded to the detectable substance,~~ causing the emission of electromagnetic radiation. ~~of a narrow wavelength band and/or the detectable absorption, and/or scattering or diffraction of energy signifying, in either case, the presence, in the material, of the detectable substance bonded to the organo luminescent semiconductor nanocrystal probe. Since~~

~~the semiconductor nanocrystals in the probe are excitable over a broad bandwidth of energy, and emit electromagnetic radiation over a narrow bandwidth, it is possible to use a single energy source to simultaneously excite a plurality of such probes, each emitting electromagnetic radiation of a differing wavelength band to simultaneously analyze for a plurality of detectable substances in a material being analyzed.~~

Further described are processes for respectively: ~~is a process for~~ making the luminescent semiconductor nanocrystal compound; ~~and for~~ making the ~~organo luminescent~~ semiconductor nanocrystal probe; and ~~comprising the luminescent semiconductor nanocrystal compound linked to an affinity molecule capable of bonding to a detectable substance. A process is also described for~~ using the probe to determine the presence of a detectable substance in a material.